



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,667	01/11/2002	Brian C. Barnes	2000.057000/TT4090	9420
23720	7590	05/16/2007		
WILLIAMS, MORGAN & AMERSON 10333 RICHMOND, SUITE 1100 HOUSTON, TX 77042			EXAMINER NGUYEN, VAN H	
			ART UNIT	PAPER NUMBER
			2194	
			MAIL DATE	DELIVERY MODE
			05/16/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/044,667

**Applicant(s)**

BARNES ET AL.

**Examiner**

VAN H. NGUYEN

**Art Unit**

2194

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 24 is/are allowed.
- 6) ☒ Claim(s) 1-4, 8-20, 25 and 26 is/are rejected.
- 7) ☒ Claim(s) 5-7 and 21-23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All. b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. In view of the Appeal Brief filed on 03/02/2007, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

Claims 1-26 are currently pending in this application.

### Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

*(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.*

*(b) This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).*

Claims 1-4, 8-20, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKee (US 6,745,307 B2) in view of Breslau et al. (US 5,765, 205).

#### **As to claim 1:**

McKee teaches the invention as claimed including a method (e.g., method and system for controlling areas of memory within a computer to routines executing at a specific privilege level; see the Abstract), comprising:

- executing a software object (e.g., routines executing; see the Abstract/executing process; col.8, lines 1-5 and col.13, lines 10-13);

establishing a security level for the software object (e.g., specifies the privilege level required of an accessing process; col. 8, lines 9-13); and

- performing a virtual address based memory access (virtual memory address) using the security level (see the virtual memory address discussion, beginning at col. 7, line 35),
- performing the virtual address based memory access comprising using a secondary table (e.g., the virtual page table 602) and at least one virtual table (e.g., the virtual page table 604) [see fig.6 and the use of multiple tables discussion beginning at col. 8, line 46].

McKee, however, does not specifically teach the claimed at least one virtual memory table.

Breslau teaches the use of at least one virtual memory table [see the virtual memory tables discussion beginning at col. 6, line 37].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify McKee with Breslau because Breslau's teaching would have provided security and access privileges within a computer system that allow processes executing at certain privilege levels to access a region of memory while preventing processes executing at other privilege levels from accessing the memory region.

**As to claim 2:**

McKee teaches using a processor (e.g., the processor; col. 7, lines 66-67) to process software code of the software object.

**As to claim 3:**

McKee teaches assigning a security level relating to a memory access of at least a portion of a memory (e.g., memory access is provided only to routines running at those privilege levels at which a particular region of memory is intended for access; col. 13, lines 6-8).

**As to claim 4:**

The rejection of claim 1 is incorporated herein in full. Additionally, McKee teaches establishing the secondary table (e.g., the virtual page table 602; see fig.6); receiving a memory access request based upon executing of the software object (e.g., the application routine makes a system call which promotes 812 privilege level to privilege level O; col. 9, lines 43-44); performing the virtual address memory access based upon the memory access request (see the virtual memory address discussion, beginning at col. 7, line 35); and accessing a portion of a memory based upon the virtual address memory access (see the virtual memory address discussion, beginning at col. 7, line 35).

**As to claim 25:**

McKee teaches executing a function (e.g., read, write, execute," see col.8, lines 3-24; see

also fig. 7 and the accompanying text beginning at col.9, line 5) of the object based upon said virtual address based memory.

**As to claim 12:**

Note the rejection of claim 1 above. Claim 12 is the same as claim 1, except claim 12 is an apparatus claim and claim 1 is a method claim.

**As to claims 17-20, and 26:**

Note the rejection of claims 1-4, and 25 respectively. Claims 17-20, and 26 are the same as claims 1-4, and 25, except claims 17-20, and 26 are computer readable claims and claims 11-4, and 25 are method claims.

**As to claim 13:**

The rejection of claim 1 above is incorporated herein in full. Additionally, McKee further teaches a processor (e.g., processor 108; Fig. 1), a bus (e.g., internal bus 116; col.1, lines 41-42), a memory unit (e.g., memory 110, 112, 114; Fig. 1), and a memory access interface (e.g., internal bus 117, Fig. 1).

**As to claim 14:**

McKee teaches at least one microprocessor (e.g., microprocessors 124-129;fig. 1).

**As to claim 15:**

Note the discussion of claim 1 above for rejection.

**As to claim 16:**

McKee teaches said memory unit comprises, among other things, a random access memory (e.g., disks; col. 7, lines 30-31).

**As to claim 8:**

Note the discussion of claims 1 and 4 above for rejection.

**As to claims 9 and 10:**

Note the discussion of claims 2 and 3, respectively, for rejection.

**As to claim 11:**

The rejection of claim 1 above is incorporated herein in full. Additionally, McKee further teaches determining a segment being executed based upon the physical address (e.g., selects a memory page within physical memory; col.8, lines 62-66); and defining a current security level (e.g., the current privilege level; col.9, lines 36-67), based upon the determining of the segment being executed.



### **Indication of Allowable Subject Matter**

3. Claims 5-7 and 21-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, subject to a final search.

Claim 24 appears to be allowable over the prior art of record, subject to a final search.

### **Response to Arguments**

4. Applicant's arguments filed 03/02/2007 have been considered but are moot in view of the new ground(s) of rejection.

### **Conclusion**

5. The prior art made of record, listed on PTO 892 provided to Applicant is considered to have relevancy to the claimed invention. Applicant should review each identified reference carefully before responding to this office action to properly advance the case in light of the prior art.

Art Unit: 2194

### **Contact Information**

6. Any inquiry or a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: (571) 272-2100.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VAN H. NGUYEN whose telephone number is (571) 272-3765. The examiner can normally be reached on Monday-Thursday from 8:30AM 6:00PM. The examiner can also be reached on alternative Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, WILLIAM THOMSON can be reached at (571) 272-3718.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**Any response to this action should be mailed to:**

Commissioner for patents  
P O Box 1450  
Alexandria, VA 22313-1450



Van H. Nguyen  
Patent Examiner, AU 2194